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Specification

REFLECTIVE TYPE COLOR LIQUID CRYSTAL DEVICE AND AN ELECTRONIC APPARATUS USING THIS

no. A1

Field of the Invention

5 The present invention concerns a reflective type color liquid crystal device and an electronic apparatus using this.

Prior Art

10 The display mounted on a portable information terminal first must be low in power consumption. Consequently, reflective type liquid crystal devices not requiring backlights are optimal for this purpose. Nevertheless, the conventional reflective type liquid crystal device was mainly a monochrome display, and a good
15 reflective type color liquid crystal device is yet to be obtained.

20 The development of the reflective type color liquid crystal device appears to have been started in earnest from the middle of the 1980s. Before that, for example, as in the publication of Japanese Laid-Open Patent No. 50-80799, it was not recognized that if the backlights of a transmissive type color liquid crystal device were replaced with a reflection plate, that was equivalent to saying a reflective type color liquid
25 crystal device may be possible. Nevertheless, it is clear if actually test created, but with such a configuration it is dark and unusable. There are three causes: (1) 1/2 or more of the light is lost with the filter, (2) 2/3 or more of the light is further lost due to the color filter, and
30 (3) the problems of parallax. The problems of parallax cannot be avoided with the TN (twisted nematic) mode and STN (super twisted nematic) mode in a transmissive liquid crystal device. The reason is because, since these modes necessarily use two polarizing plates, as long as the
35 polarizing plates cannot be built into the cell, there occurs a gap that cannot be ignored between the reflective plate and the liquid crystal layer. The problems of

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